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09/586,484	06/01/2000	Bradley W. Smith	AAI-14085	8297

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EXAMINER

LUM, LEE S

ART UNIT

PAPER NUMBER

3611

DATE MAILED: 09/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/586,484

Applicant(s)

SMITH, BRADLEY W.

Examiner

Ms. Lee S. Lum

Art Unit

3611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-9, 11-19 and 21-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-9, 11-19 and 21-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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**DETAILED ACTION**

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1. An Amendment was filed 6/15/02 in which Claim 13 was amended.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 16-19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 16, lines 5 and 9, "the respective lengths of the inflator" is unclear because, as best understood, the inflator has just one length.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3A. **Claims 7-9, 11-19, 21, 23, 24 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Stein et al 6336654 in view of Hamilton 6145876.

Re **Claim 7**, Stein discloses inflator 10 comprising  
elongated hollow tubular/arcuate member, comprising elements 24 and 30,  
containing an elongated supply of pyrotechnic gas generant material reactable to  
produce a supply of gas (col 2, lines 25-27),  
and, including a plurality of longitudinally-spaced gas exits (col 2, lines 10-11).

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The patent does not specify the tube as having a length-to-diameter ratio greater than 20, while Hamilton shows that elongated supply of gas generant 28 (col 5, lines 10-11) has this dimension in col 13, lines 5-7, for elongated inflator 20 described in col 15, lines 37-42. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this ratio for the dimension of the elongated gas generant, as shown in Hamilton, so that a sufficient amount of gas generant is provided to properly inflate the curtain airbag.

Re **Claims 8, 13 and 25**, Hamilton further discloses elongated diffuser/deformable discharge treatment element 96 secured adjacent the inflator 52 for direction of gas into airbag 24, with gas flow paths 100, best depicted in Figs 6A-D. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this diffuser arrangement, as shown in Hamilton, to ensure that the gas is properly distributed towards inflation of the elongated airbag.

Re **Claim 14**, Hamilton further shows filter 120 as described in col 14, lines 39-51, and depicted in Fig 5. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this element, as shown in Hamilton, to minimize passage of heat, generated by inflation, into the airbag, thus minimizing damage to the latter. This feature is well-known in the art.

Re **Claims 9, 11, 12 and 15**, Stein further discloses curtain airbag 14.

Re **Claims 16-19**, Stein in view of Hamilton discloses the recited elements as previously discussed.

Re **Claims 21, 23 and 24**, Stein in view of Hamilton discloses a method of inflating an inflatable device, the steps derived from the structure and means just described. Stein also discloses the step of bending the inflator to conform to the inflator-accepting site as depicted in Figs 1 and 2.

3B. **Claims 2 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Stein in view of Hamilton, and in further view of Walker et al 5845933.

Re **Claim 2**, the previous patents do not disclose at least a portion of the gas generant material as including cylindrical grains, while Walker shows the gas generant as comprising cylindrical annular-shaped grains axially aligned end-to-end, in Fig 1 with grains 56. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this material, as shown in Walker, as one type of gas generant material for certain inflators requiring this arrangement of gas generant, and so as to provide a more reliable filter. *in flator*

Re **Claim 4**, the previous patents do not include an elongated igniter extending within an cavity formed by annular-shaped grains, while Walker shows the inflator as comprising an elongated igniter 26, and fuse (Col 9, lines 29-31), extending within internal cavity 24. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this material, as shown in Walker, for even (and time-dependent) ignition of the gas generant material, thus increasing optimal performance.

3C. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Stein in view of Hamilton and Walker, and in further view of Sheng 6068290.

The previous patents do not disclose an ignition-enhancing material coated on the inner surfaces of the grains, while Sheng shows this feature in col 3, last paragraph. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include an accelerator on the grains, as shown in Sheng, as another gas generant for specific ignition characteristics.

3D. **Claims 5 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Stein in view of Hamilton, and in further view of Armstrong III et al 5551724.

The previous patents do not disclose a diffuser comprising an expanded metal, while Armstrong shows this element in Fig 4, and col 11, first four complete paragraphs. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this element, as shown in Armstrong, in order to direct the outgoing gas towards the airbag, and treat it for particulates/undesired materials.

3E. **Claims 22 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Stein in view of Hamilton, and in further view of Wilhelm 4158696.

The previous patents do not disclose that the grains react substantially simultaneously, while Wilhelm shows this characteristic in Col 3, last line, to the next column. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include a material which can be ignited substantially simultaneously, as shown in Wilhelm, so to minimize the reaction time in which the airbag is inflated, for certain applications.

4. RESPONSE TO REMARKS: Moot in light of new rejections.


5. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure, in addition to the art listed above, and on the IDSs filed 6/1/00 and 12/18/01: Taylor et al 6051158, Lindsey et al 5871228, 5743556, Haland et al 5788270, Rink et al 5547638, Hamilton et al 5541704, 4200615, Hock 5398966, Wilhelm 4158696, Jorgensen et al 4005876 -- all previously submitted with the Office Action mailed 8/10/01.

6. Communication with the Examiner and USPTO

Any inquiry concerning this communication should be directed to Ms. Lum at (703) 305-0232, 9-530, M-F. Our fax number is (703) 308-2571. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer assistance at (703) 306-5771.

Ms. Lee S. Lum, Examiner 9/24/02



  
PAUL N. DICKSON 9/24/02  
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